

Wall Mounted Mini Split Air Conditioner

OWNER'S MANUAL Model: KFH-18/KFH-18-1





Please read this owner's Manual carefully before operating the unit.



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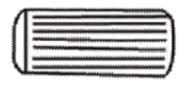
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The instructions before use

WARNING

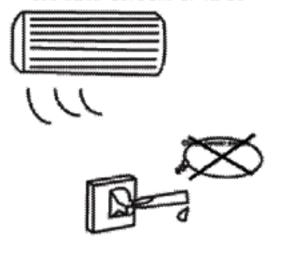
★ Don't sprinkle insecticide or combustible spray on the air conditioner.

Otherwise, it can cause a fire or the deformation.





★ Don't stop the power switch during operating. Otherwise, it will cause an electric shock or fire.



★Don't touch the metal part of indoor unit after taking out the filter.

It will cause an electric shock.



★ The unit can't be used for a long time under the condition with highhumidity.For example Doors or windows are opened for a long period.

t will form water drop or affect the performance.

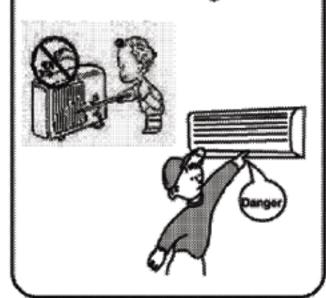


★ Don't operate the air conditioner with wet hands. It can cause an electric shock.



★ Don't insert your hands or stick into the air intake or outlet vents.

It can cause danger.



★ Don't apply the cold wind to the body for a long time.
Don't let the room temperature reduce too much.

It can cause the health problems



★ If you find the abnormal phenomenon (such as a burning smell or smoke), please turn off the power supply and contact the dealer.

If it continues, it can cause a damage, electric shock or fire.



★ Don't attempt to repair the air conditioner by yourself.

The wrong repair will lead to an electric shock or fire, so you should contact the service center to repair.

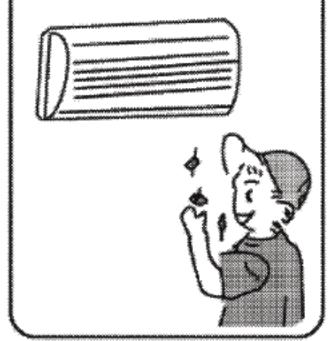


★Don't charge or disassemble the batteries. Don't throw the batteries into fire.

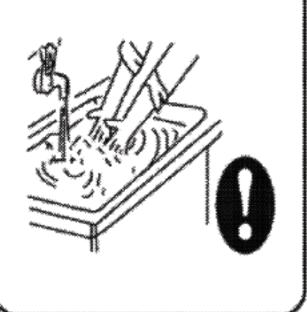
Otherwise, it will lead to tinder in the batteries leak or fire.



★ Be sure to turn power off when not using the air conditioner for a long time.

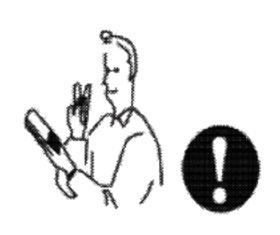


★ If skin or the clothes touch the leak liquid of batteries, please wash them by water.



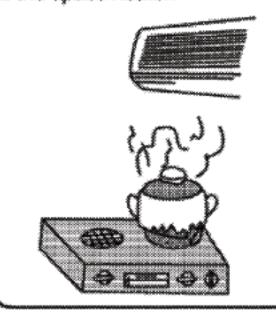
★ If changing the batteries, the same type batteries can be used.

Otherwise, it will cause leak or explosion.



★ Don't place a space heater near the air conditioner.

Air flow from the air conditioner can cause incomplete combustion to the space heater.



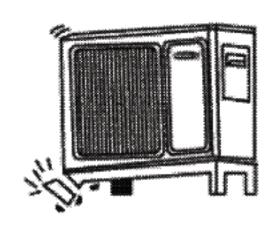
★ Keep combustible spray 1m or more away from the units.

It is likely to ignite and explode.



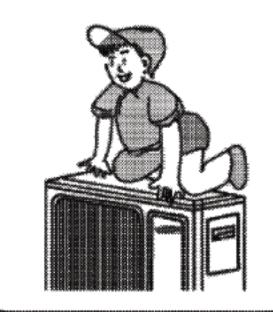
★ Please note whether the installed stand is firm enough or not.

It leads to the falling of the unit which occasionally causes the injury etc.



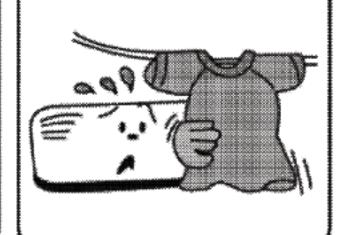
★ Don't step on the top of the outdoor unit.

As falling off the outdoor unit can be dangerous.

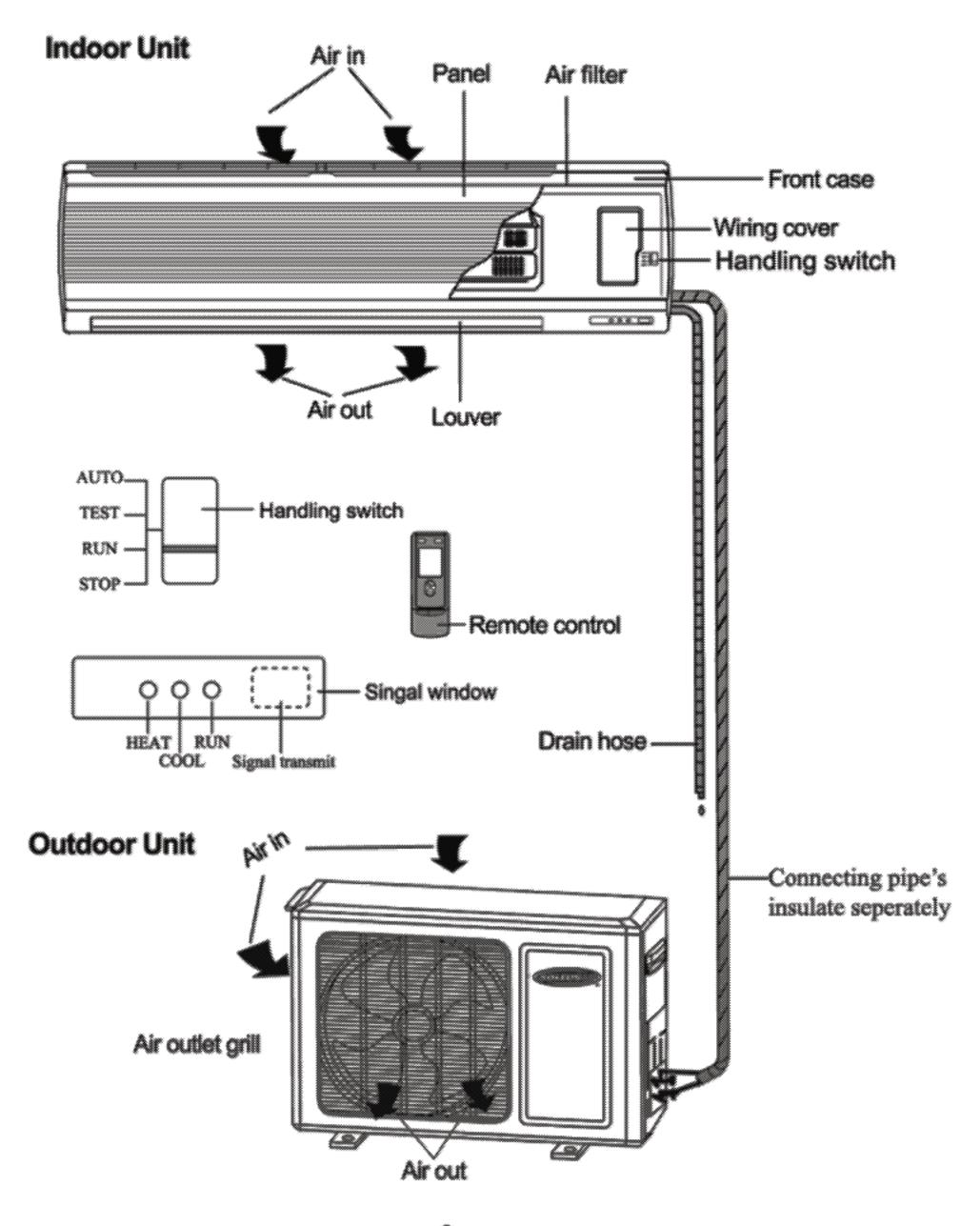


★ Don't block the air intake or outlet vents of both the outdoor and indoor units.

It can decrease the air conditioning capacity or cause a maifunction.



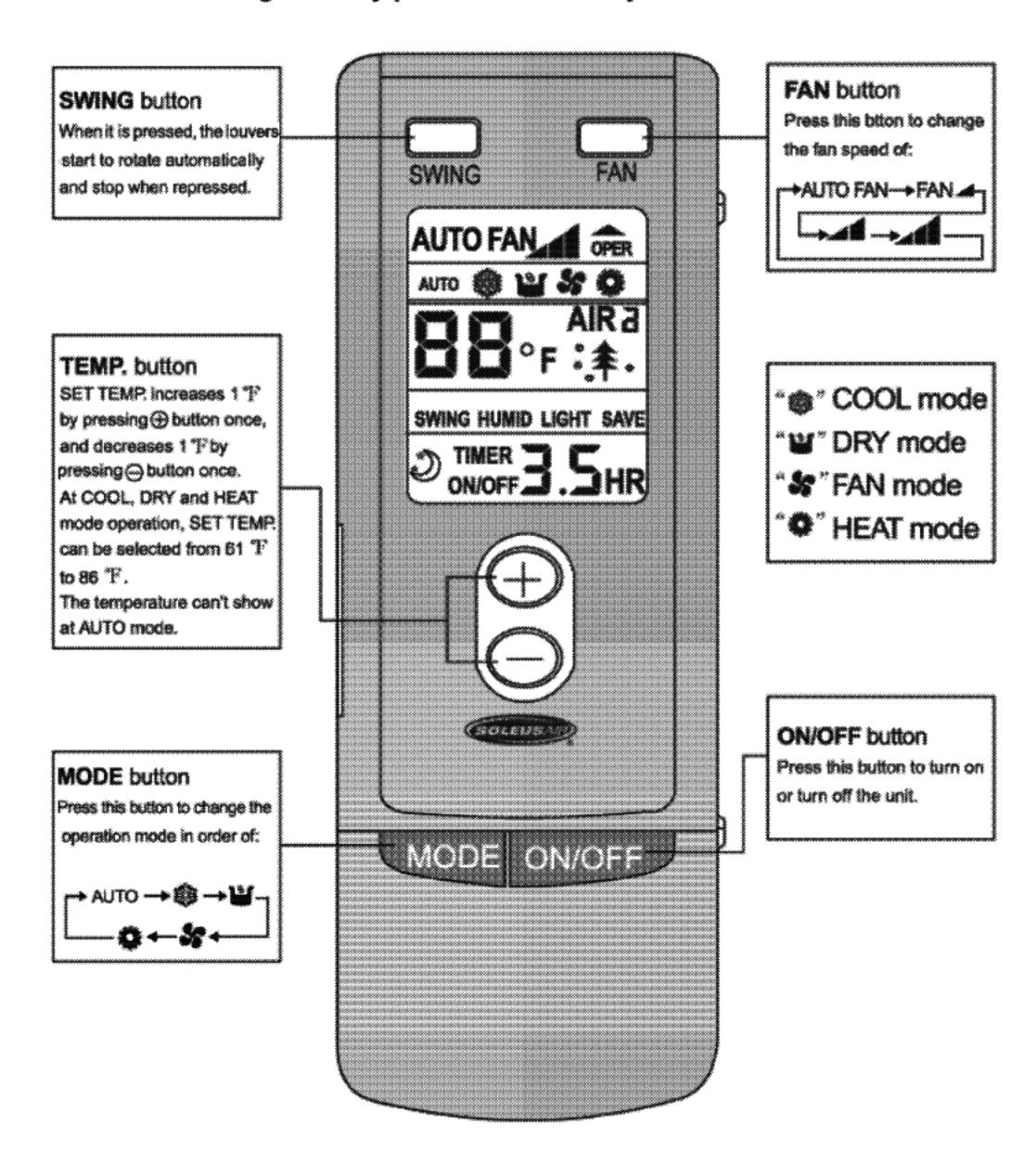
Name and function of each part



Name and function-Remote control

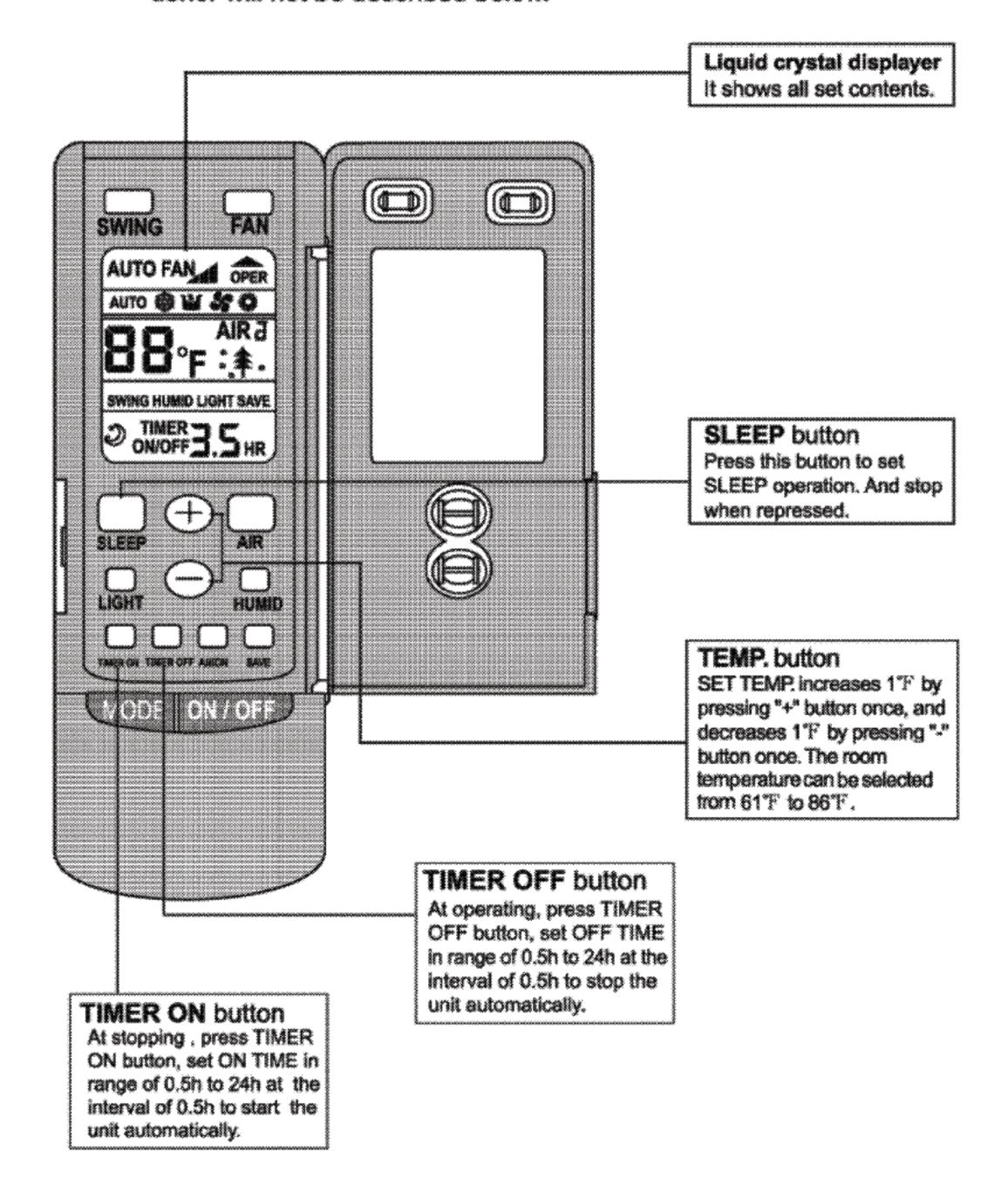
Note:

- Be sure that there is no obstruction between receiver and remote control.
- Don't drop or throw the remote control.
- Don't let any liquid in the remote control and put the remote control directly under the sunlight or any place where is very hot.



♠ Name and function-Remote control (Remove the cover)

Note: Some buttons of the control which are not available to this air conditioner will not be described below.



Operation guide

The general procedure:

- 1. Open the power of switch and press ON/OFF button to start the unit.
- 2. Press MODE button to select the suitable operation mode.
- Press SWING button to swing according to a certain direction and stop when pressing it again.
- 4. Press FAN button to set desired fan speed.
- 5. Press +/- button to set desired temperature.

The selected procedure:

- 6. Press SLEEP button to set the sleep.
- Press ON/OFFbutton, then press TIMER ON and TIMER OFF button to set scheduled time.

Note: In AUTO mode, the unit will automatically adjust its running modes according to the room temperature changes.

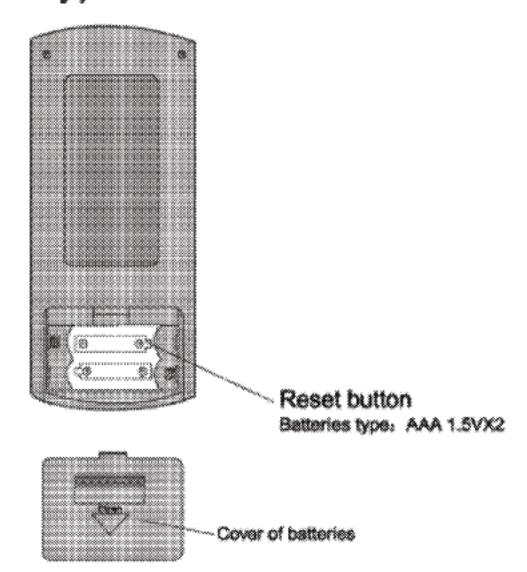
How to insert batteries

The remote control adopts two AAA dry-cell batteries.

- 1. Remove the cover from the back of the remote control and insert two new batteries (Pay more attention to the polarity.)
- Re-attach the cover.

Note:

- Don't mix new and used or different types of batteries.
- Remove batteries away when the remote control is not in use for a long time.
- The remote control signal can be received in the range of receiving.
- The remote control should be placed about 1m or more away from the TV set or any other electric appliances.



The best operating methods

It aims at saving the energy and operating the unit conveniently and safely. Adjust to the suitable temperature. Too cool will do harm to the health. Clean the air filter seriously and maitaining it carefully Take out the batteries f the remote control will be free within a long period. Avoid directly lighting and cool air leaking

Earth wire

Earth wire must be connected to special device of the building. If not, wiring must be done by special technician. The earth end of socket should be earthed reliably. In fixed circuit, there must be electricity leakage protection switch, and, air, switch (15A) with enough power capacity. Don't connect the earth wire to the gas pipe, water pipe, or wire of the lightning rod and telephone.



User notices

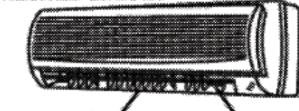
Select the most appropriate temperature.

It can preclude the electricity wasted.



 The airflow direction can be adjusted appropriately.

At operating, adjust the vertical airflow direction by adjusting the louvers of upward/downward direction. And then, hold two ends of left and right louver to adjust the horizontal airflow.

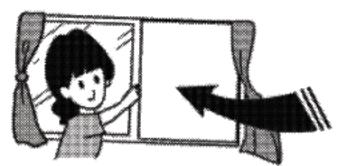


Louver of left/right direction

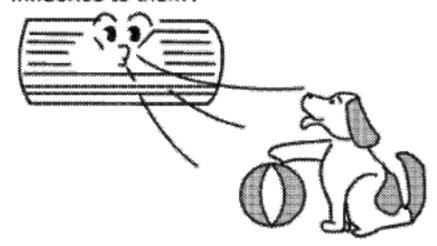
Louver of upward/ downward direction

Don't leave windows and doors open for a long time while operating the air conditioner.

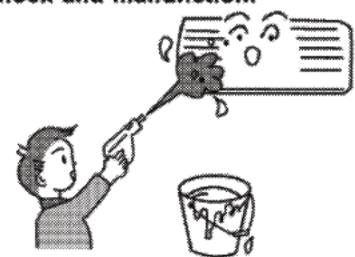
It can decrease the air conditioning capacity.



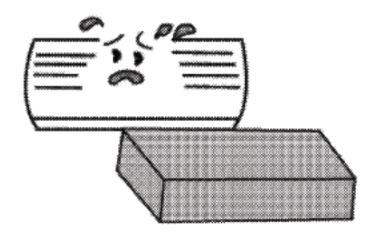
Don't blow the wind to animals and plants directly. It can cause a bad influence to them.



Splashing water on the air conditioner can cause an electric shock and malfunction.



 Don't use the air conditioner for other purposes, such as drying clothes, preserving foods, etc.



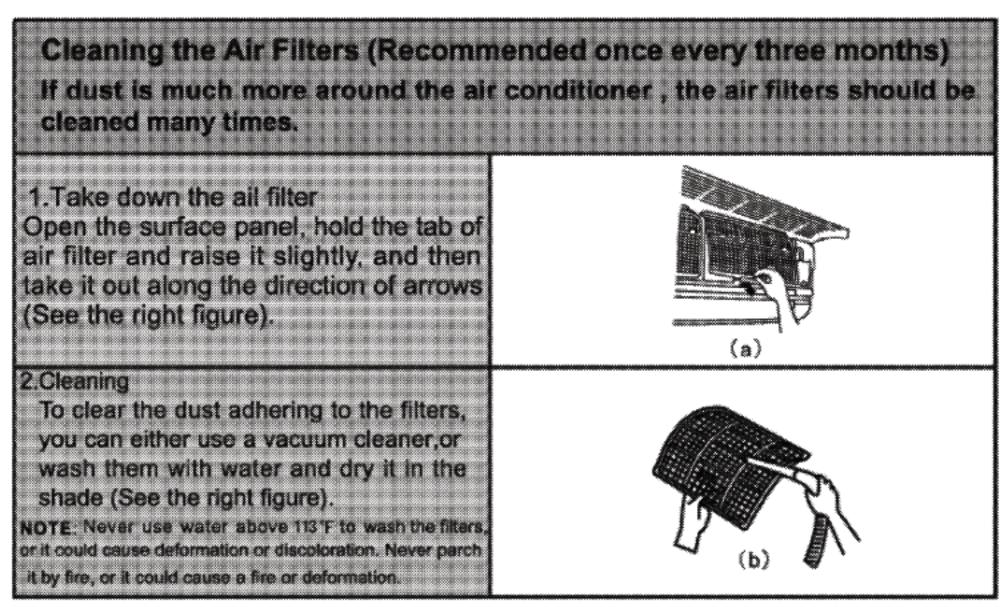
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Care and Maintenance

CAUTION

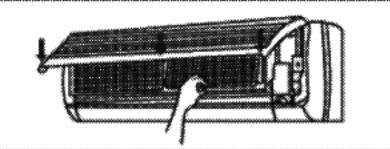
- Turn power off and pull out the power cord before cleaning air conditioner.
- Never sprinkle water on the indoor unit and the outdoor unit for cleaning because it can cause an electric shock.
- ▲ Volatile liquid (e.g. thinner or gasoline) will damage the air conditioner. (So wipe the units with a dry soft cloth, or a cloth slightly moistened with water or cleanser.)

Take down the surfa	ce panel and clean it (Take it down before cleaning)
1.Pull along the direction of arrows to take down surface panel.	(a)	2.Washing Wipe with a cloth slightly moistened with water or cleaner then dry it in the shade. Note: Never use water above 113 F to wash the panel, or it could cause deformation or discoloration.
Install surface panel install the supports (those are on two ends of surface panel) into the supporting slots then cover the surface panel and clasp it.		



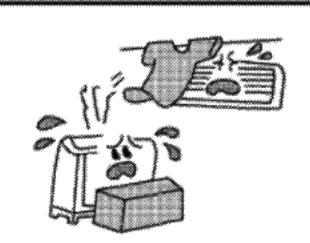
3. Reinsert the filters

Reinsert the filters along the direction of arrow, then cover the surface panel and clasp it.



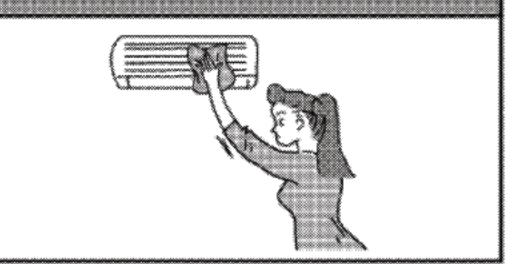
Check before use

- Be sure that nothing obstructs the air outlet and intake vents.
- Check that whether ground wire is properly connected or not.
- Check that whether the batteries of air conditioner are changed or not.
- 4.Check that whether the installation stand of the outdoor unit is damaged or not. If damaged, please contact the dealer.



Maintain after use

- Clean filters and other parts.
- 2. Turn main power off.
- Clear dust from the outdoor unit.
- Repaint the rubiginous place on the outdoor unit to prevent it from spreading.



◆ Trouble shooting

Warning: Don't attempt to repair the air conditioner by yourself, it can cause an electric shock or fire. Please check the following items before asking for repair, it can save your time and money.

Phenomenon	Trouble Shooting
not operate immediately when the air conditioner is restarted.	Once the air conditioner is stopped, it will not operate in approximately 3 minutes to protect itself.
There's unusual smell blowing from the outlet after operation is started.	This is caused by the odors in the room which have been breathed into the air conditioner.

Trouble Shooting Phenomenon Sound of water flow can be heard This is caused by the refrigerant during operation. flowing inside the unit. Mist is emitted during cooling Because the air of the room is cooled operation. down rapidly by the cold wind and it looks like the fog. Creaking noise can be heard when This is caused by the deformation of start or stop the unit. plastic due to the change of temperature. Air conditioner does not operate at Has the power been shut down? all. · Is the leakage protection switch in operation? Is voltage higher or lower? Is TIMER ON in operation? Cooling (Heating) efficiency is not Is SET TEMP, suitable? Is air inlet or outlet obstructed? good. Are air filters dirty? Are the windows and door closed? Is indoor fan speed set at low speed? Is there any other heat source in your room? Remote control can't be used occasionally when the air conditioner is disturbed or Remote control is not available. changing its functions frequently. time, pull out the power plug and insert it again to recover the operation. Is the remote control out of effective. disance to the indoor unit? Are there any obstruction between the remote control and the signal receptor? Replace the worn batteries of remote. control if the voltage of the batteries is not sufficient.

Immediately stop all operations and plug out, contact the dealer in following situations.

If you have any question, please inform the dealer.



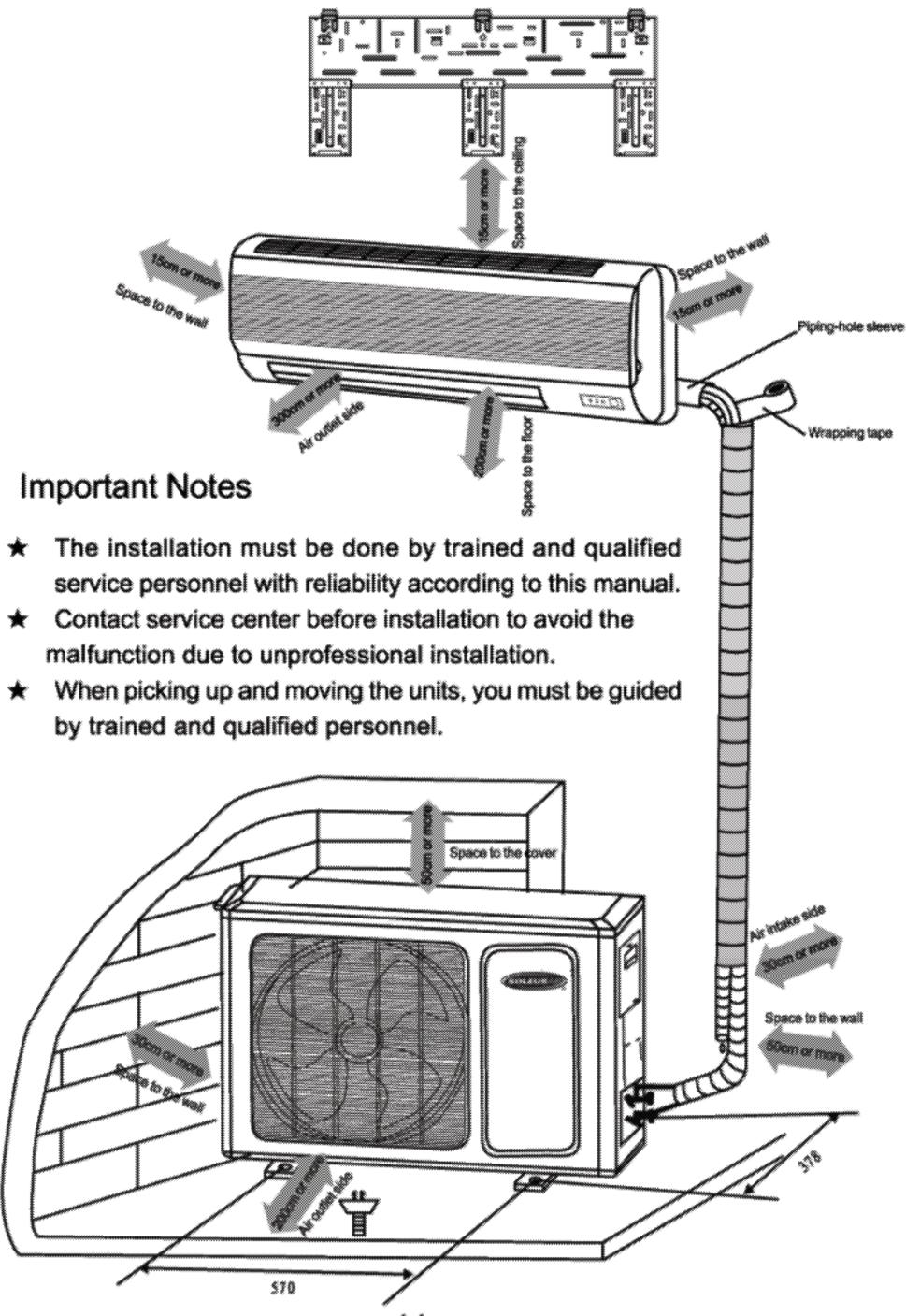
- Unusual noise can be heard during operation.
- Protection switch often breaks.
- ▲ Carelessly splash water or something into air conditioner
- Water is leaked in the room.
- Wind blowing from the outlet smells terrible during operation.

Technical Specification Sheet

	Model		KFH-18/KFH-18-1
Po	wer supply	Ph-V-Hz	1, 208/230V~, 60Hz
	Capacity	Btu/h	18000
	Input	W	1610
Cooling	Rated current	Α	7.75/7.00
	SEER	Btu/w.h	13.5
Moist	ure Removal	Pts/h	6.3
Max. ing	out consumption	W	2200
	c. Fuse size	Α	15
Min. ci	rcuit ampacity	A	15
	Model		SL253SN-C7EU
	Туре		rotor
	Brand		Shanghai Hitachi
	Capacity	Btu/h	5230w/230V
	Input	W	1685w/230V
Compressor	Rated current(RLA)	A	7.6
	Locked rotor Amp(LRA)	A	39
	Thermal protector	, ,	Buit in
	Capacitor	uF	50
	Refrigerant oil	ml	480
	Input	W	25
	Capacitor	uF	3.0
	Speed(hi/mi/lo)	r/min	1400/1300/1200
Indooro	ir flow (Hi/Mi/Lo)	CFM	706
	,		54/52/50
ITIQOOT TIOI	se level (Hi/Mi/Lo) Dimension (W*H*D)	dB(A) inch	46 3/8x12 7/8x9
	` '		
Indoor unit	Packing (W*H*D)	inch	49 3/4x16 3/8x13 1/8
	Net/Gross weight	lb	38.5/53
	stack height	10/	6
	Input	W	60
	Capacitor	uF	3.5
	Speed	r/min	780
Outdoor unit	Dimension(W*H*D)	inch	39 5/8x13 3/8x33 3/8
	Packing (W*H*D)	inch	43 1/4x17 3/4x35 5/8
	Net/Gross weight	Lb	136.5/150
	stack height		2
	ise level (Hi/Mi/Lo)	dB(A)	
Refrigerant type	R22	OZ	58.2
	nt Charging Scale	oz/ft	0.53
	sure (Discharge side)	Psig	362.5
Design pressure (Suction side)		Psig	145
	Liquid side	inch	3/8
Refrigerant piping	Gas side	inch	5/8
	Max. refrigerant pipe length	ft	49.2
	Max. difference in level	ft	32.8
Thermostat type			electronic
Operation temp range		F	61-86
Ambient temp		F	50-118.4

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Installation dimension diagram



Installation location

Indoor unit

- The inlet and outlet should not be covered so that the outflow air can reach all parts of the room.
- Install in a location from which the condensation water can be drained out conveniently and that is permitting easy connection with the outdoor unit.
- Avoid a location where there is heat source, steam or inflammable gas.
- Install in a location where is strong enough to withstand the full weight and vibration of the unit.
- Be sure that the installation conforms to the installation dimension diagram.
- 6. Be sure to leave enough space to allow access for routine maintenance. The height of the installed location should be 6.6ft or more away from the floor.
- Install in a location where is 3.3ft or more away from other electric appliances such as television, audio devices, etc.
- Select a location where is easy to remove and clean the filter

Outdoor unit

- Select a location from which noise and outflow air emitted by unit will not inconvenience neighbors.
- Select a location where there should be sufficient ventilation.
- The inlet and outlet should not be covered.
- The location should be able to withstand the full weight and vibration of the outdoor unit and permit safe installation.
- 5. There should be no danger of flammable gas or corrosive gas leaks.
- Be sure that the installation conforms to the installation dimension diagram.

NOTE:

Install in the following place may cause malfunction. If it is unavoidable, contact the dealer please.

- The place where oil (machine oil) is used.
- The place where a lot of salinities such as coast exists.
- The place where a sulfured gas such as the hot spring zones is generated.
- The palce where high-frequency waves are generated by radio equipment, welders and medical equipment.
- Other place with special circumstance.

♦ Installation

☆ Install the rear panel

- 1.Always mount the rear panel horizontally Because the mouth of drainage pipe is at the left side and the left side of the rear panel is better to adjust slightly lower
- 2.Fix the rear panel on the selected location with screws supplied with the unit.

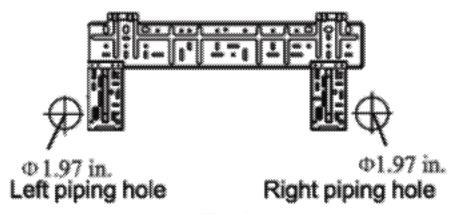


Fig.1

3.Be sure that the rear panel has been fixed firmly enough to withstand the weight of an adult of 132.28 lbs furthermore, the weight should be evenly shared by each screw

☆ Install the piping hole

- 1.Make the piping hole (Φ 1.97 in) in the wall at a slight downward slant to the outdoor side.(Shown in Fig. 1)
- 2.Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

☆ Install the drainage hose

 For well draining, the drain hose should be placed at a downward slant.

Do not twist or bend the drain hose or submerse its end in water.

3. The extended drainage pipe in the room should be wrapped with the insulating materials

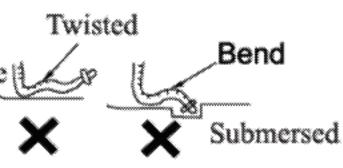


Fig. 2

☆ Install the connection pipes

Connect the connection pipes with the relevant union pipes of the indoor unit and tighten the flare nut of the connection pipes (Shown in P18-P19 " Install the connection pipes").

NOTE:

- ▲ Connect the connection pipes with the indoor unit firstly and the outdoor unit secondly.
- ▲ Be careful in bending the connection pipes, or you will damage the pipes.
- ▲ If the tightening torque is too great in tightening the flare nuts, leakage will happen.

A Electric wiring and electric wiring between indoor and outdoor unit

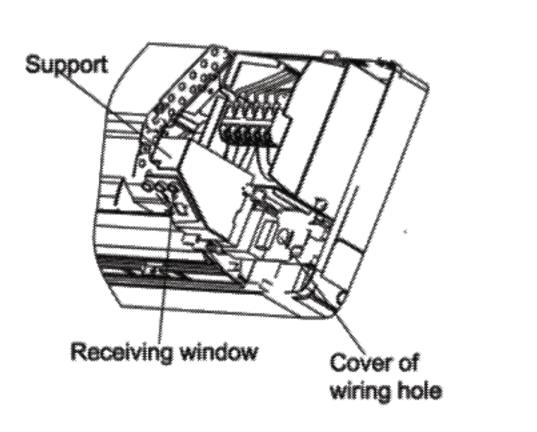
- 1. The power supply should adopt the rated voltage and special circuit.
- Wiring must be done by special technician according to local rules, regulations and this manual.
- The nut should be tightened and cannot fall off.

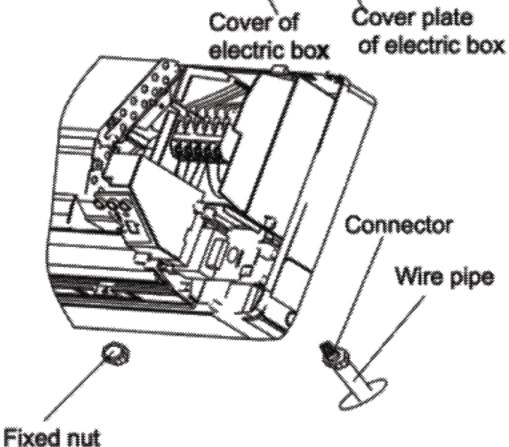
☆ Wiring of Indoor unit

Note: The power of indoor unit is supplied by the outdoors without installing electricity leakage breaker. But break switch should be installed.

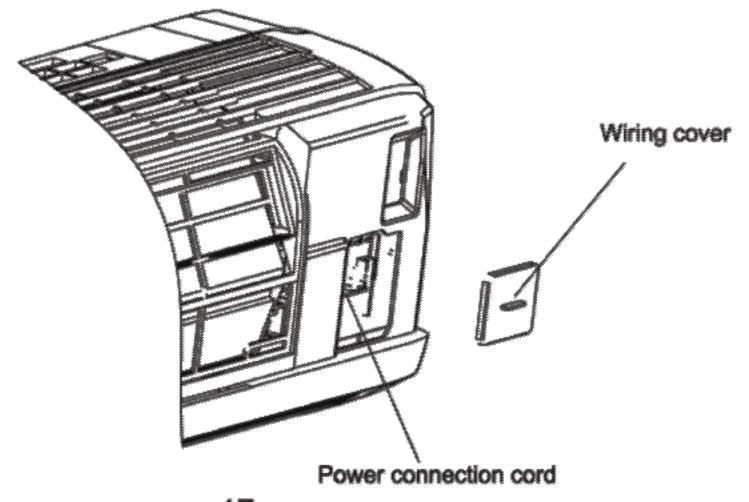
Operation procedures:

- 1. Open the surface panel.
- Open the cover and cover plate of electric box. (Right figure)
- Remove the receiving window as shown in the below left figure.





4. Wire pipe should be tightened by the fixed nut and the electric box should be fixed as shown in the above right figure and the below figure.

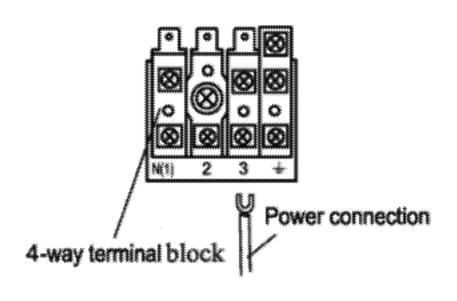


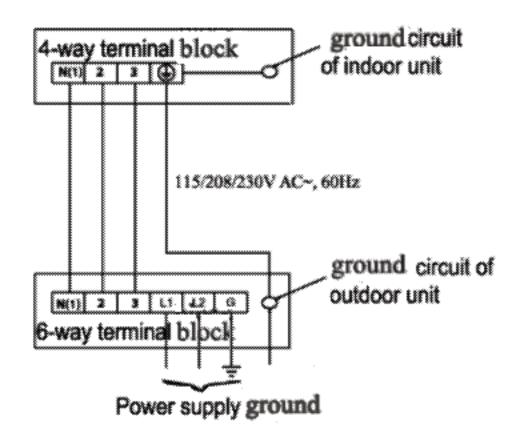


Electric wiring

Note: Wiring must be done by special technician according to the local rules & regulations and this manual. The connecting wire should be correctly connected to circuit interface. Otherwise, it can cause a fire, electricity leakage and so on.

The diagram is shown as below:





NOTE

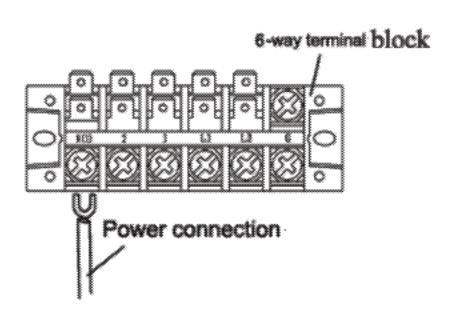
- 1. Wiring should be correct.
- 2. Tighten the nut of terminal block to avoid falling off.
- 3. After fixing, the wire cannot be removed if pulls it.
- 4. Wrong wiring will cause air conditioner work abnormally.
- 5. Wrong grounding will cause short circuit.

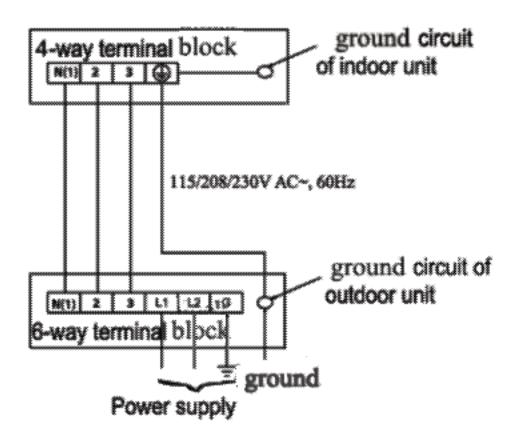


Wiring of outdoor unit

Operation procedures:

- Open the cover of outdoor unit.
- The connecting wire led from the terminal board of indoor unit should be connected correctly.
- The connecting wire should be a little longer so that it can easily maintained.





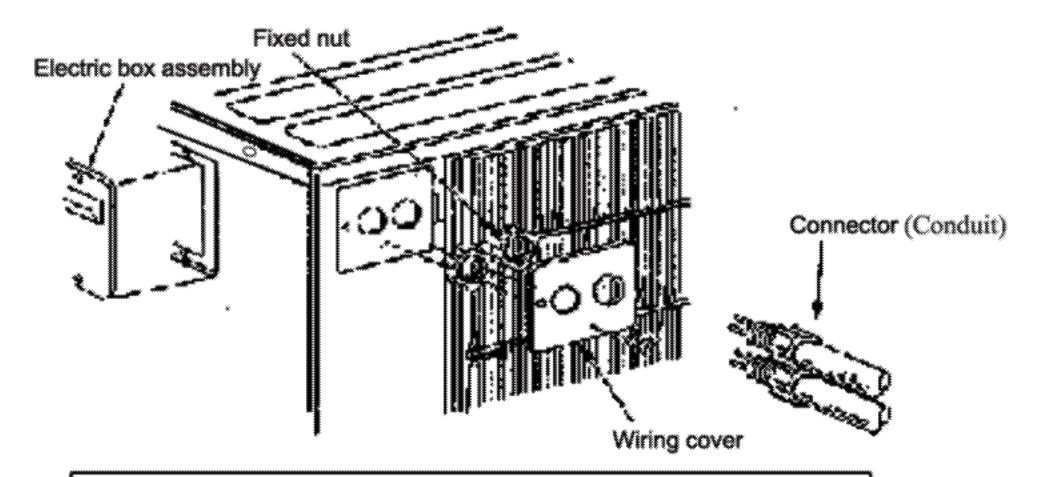
NOTE

- 1. Wiring should be correct.
- 2. Tighten the nut of terminal block to avoid falling off.
- After fixing, the wire cannot be removed if pulls it.
- 4. Wrong wiring will cause air conditioner work abnormally.
- 5. Wrong grounding will cause short circuit.

♦ Earth

Earth (Outdoor Unit)

- 1. Open the wiring cover.
- The connector of wire pipe should be fixed by the fixed nut and the wiring cover should be also fixed.

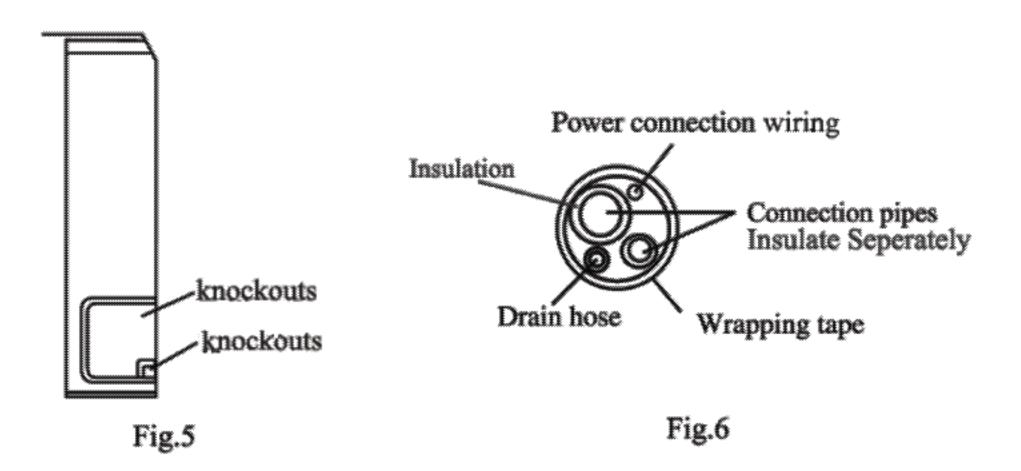


NOTE

- 1. The connecting wire and connection pipe cannot touch each other.
- Top cover of outdoor unit and electric box assembly should be fixed by the screw. Otherwise, it can cause a fire, or short circuit caused by water or dust.

☆ Install the indoor unit

- 1. When routing the piping and wiring from the left or right side of the indoor unit, cut off the knockouts from the chassis in necessary(shown in Fig.5).
- ① Cut off knockout I when only power cord is routed.
- 2 Cut off knockouts 1 and 2 when connect pipe and power cord are routed.
- 2.Wrap the piping and wiring and pull them through the cut-off knockouts hole (shown in Fig. 6).
- 3. Hang the 2 mounting slots of the indoor unit on the upper tabs of the rear panel and check if it is firm enough.
- 4. The height of the installed location should be 2.0m or more from the floor.



☆ Install the outdoor unit

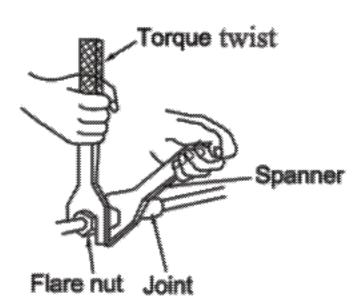
Install the connection pipe

- 1. Align the center of the piping flare with the relevant valve.
- S crew in the flare nut by hand and then tighten the nut with spanner and torque twist refer to right figure.

Note: Exceeding tightening torque will damage the flare nut.

Tightening torque table

Hex nut diameter (in.)	Tightening torque (P-f)
Φ 1/4	11.06~14.75
Φ 1/2	36.88~40.57



Air purging and leakage test

- Install the connecting pipes of indoor/ outdoor unit.
- Remove cap of gas valve of outdoor unit and open gas valve. (The cap has no function when leaving factory.)
- Connect gas valves of vacuum gauge, vacuum pump and outdoor unit.
- Start vacuum pump. (Running time should be more than 15mins.)
- Check the vacuum by vacuum gauge.After evacuation, vacuum pump should be stopped.
- The presure should be kept for 1-2 minutes to confirm the reading of the vacuum gauge not change.
 - The presure should be -14.6PSIG
- 7. Stop gas valve and take off vacuum gauge.
- Tighten cap and open gas and liquid valve entirely. If not, the performance will be reduced or error will happen.

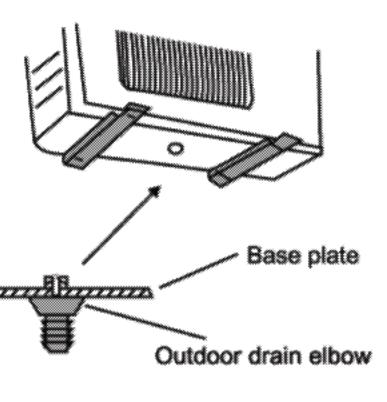
Liquid pipe Gas pipe

Vacuum gauge

A Outdoor condensation drainage (Heat pump type only)

When the unit is heating or defrosting, the wastewater formed in the outdoor unit can be drained out reliably through the drain hose.

Installation: Install the outdoor drain elbow in the \$\tilde{\to} 0.98\text{in.hole} on the base plate as shown in Fig. 10, and joint the drain hose to the elbow, so that the wastewater formed in the outdoor unit can be drained out to a proper place.

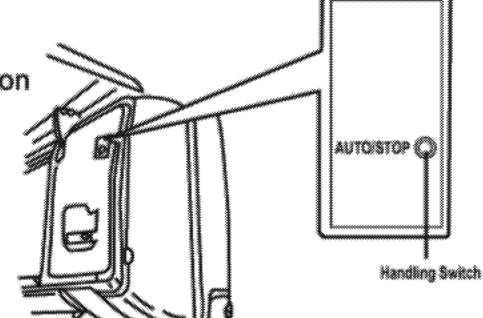


Test operation and check after installation

Test operation

1. Before test operation

- (1) Do not switch on power before installation is finished completely
- (2) Electric wiring must be connected correctly and securely
- (3) Service valves of the connection pipes should be opened.
- (4) All the impurities such as scraps and thrums must be cleared from the unit.



2. Test operation method

- (1) Switch on power and press" ON/OFF" button on the remote control to run the air conditioner
- (2) Press "MODE" button and check the operation condition of COOL, HEAT, SWING mode and so on.
- (3) When the remote control is lost, emergency run operation can be done as following by the ball pen or similar things:
- (a) At stopping, set the handling switch to "AUTO" mode, then the unit will automatically run in the mode selected by the microcomputer system according to the surrounded temperature. If you want to stop running, you should repress the handling switch.
- (b) At operation, set the handling switch to "STOP" mode to turn off the unit.

Check after installation

Items to be checked	Possible malfunction
Has it been fixed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling (heating) capacity.
Is heat insulation sufficient?	It may cause condensation and dripping.
Does the unit drain well?	It may cause condensation and dripping.
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or damage the part.
Is the electric wiring and piping connection installed correctly and securely?	It may cause electric malfunction or damage the part.
Has the unit been connected to a secure earth connection?	It may cause electrical leakage.
Is the power cord specified?	It may cause electric malfunction or damage the part.
Has the inlet and outlet been covered?	It may cause insufficient cooling (heating) capacity.
Has the length of connection pipes and refrigerant capacity been recorded?	The refrigerant capacity is not accurate.

LIMITED WARRANTY

Soleus International Inc. warrants the accompanying Soleus Air Wall Mounted Mini Split Air Conditioner (KFH-18/KFH-18-1) to be free of defects in material and workmanship for the applications specified in its operation instruction for the period of labor and parts specified below.

5 YEARS FOR COMPRESSOR 1 YEAR FOR OTHER COMPONENTS

This warranty shall not apply to broken or marred cabinets, accessories, knobs, filters or routine maintenance. This warranty does not apply to uncrating, setup, installation, removal of the product for repair or reinstallation of the product after repair.

This warranty does not apply to repairs or replacements necessitated by any cause beyond the control of Soleus International including, but not limited to, any malfunction, defect or failure caused by or resulting from unauthorized service or parts, improper maintenance, operation contrary to furnished instructions, shipping or transit accidents, modification or repair by the user, abuse, misuse, neglect, accident, incorrect power line voltage, fire, flood or other Acts of God, or normal wear and tear.

Warranty service must be performed by a qualified HVAC contractor. Soleus maintains a centralized service network to provide parts and assist in resolving service problems if difficulties are encountered. Soleus agrees to provide service information, sell repair parts and reimburse the dealer /servicer for parts and services in accordance with Soleus International's Policies and Procedures.

SOLEUS INTERNATIONAL MAINTAINS THAT ALL WARRANTIES, INCLUDING IMPLIED WARRANTY OR MERCHANTABILITY ARE LIMITED TO THE TERMS AND CONDITIONS SPECIFIED ABOVE. SOLEUS INTERNATIONAL DISCLAIMS ANY LIBILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES AND IN NO EVENT SHALL SOLEUS INTERNATIONAL INC.'S LIABILITY EXCEED THE RETAIL VALUE OF THE AIR CONDITIONER.

This warranty covers only new products purchased from our authorized dealers or retailers. It does not cover used, salvaged, or refurbished products.

FOR CUSTOMER SERVICES, WARRANTY CLAIM AND PARTS PURCHASING, CONTACT:

Soleus International Inc. Tel: 1-888-8 Soleus

Monday through Friday, 9:00 AM to 5:00 PM, PST

Email: Contact@soleusair.com
Website: www.soleusair.com